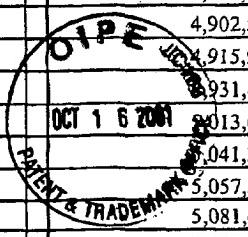


| Form PTO-1449 U.S. Department of Commerce<br>(Rev. 8-88) Patent and Trademark Office |                 | Attorney Docket No.: 0329.65766 |                  | Serial No.: 09/941,279 |          |                            |
|--|-----------------|---------------------------------|------------------|------------------------|----------|----------------------------|
| INFORMATION DISCLOSURE CITATION<br>(Use several sheets if necessary)                 |                 |                                 |                  |                        |          |                            |
|  |                 | Applicant: Schliesman et al.    |                  |                        |          |                            |
|  |                 | Filing Date: August 27, 2001    |                  | Group: 1714            |          |                            |
| <b>U.S. PATENT DOCUMENTS</b>   |                 |                                 |                  |                        |          |                            |
| Examiner Initials  | Document Number | Date                            | Name             | Class                  | Subclass | Filing Date If Appropriate |
| C S  | 3,298,030       | 01/10/1967                      | Lewis et al.     |                        |          |                            |
|  | 3,415,671       | 12/10/1968                      | Rice             |                        |          |                            |
|  | 3,523,818       | 08/11/1970                      | Blumenthal       |                        |          |                            |
|  | 3,535,202       | 10/20/1970                      | Huang            |                        |          |                            |
|  | 3,615,549       | 10/26/1971                      | Ohyama et al.    |                        |          |                            |
|  | 3,655,527       | 04/11/1972                      | Curran et al.    |                        |          |                            |
|  | 3,715,219       | 02/06/1973                      | Kurz et al.      |                        |          |                            |
|  | 3,759,744       | 09/18/1973                      | Schliesman       |                        |          |                            |
|  | 3,889,270       | 06/10/1975                      | Hoffmann et al.  |                        |          |                            |
|  | 3,966,572       | 06/29/1976                      | Carder           |                        |          |                            |
|  | 4,102,845       | 07/25/1978                      | Schröder et al.  |                        |          |                            |
|  | 4,151,666       | 05/01/1979                      | Raphael et al.   |                        |          |                            |
|  | 4,168,165       | 09/18/1979                      | Kato et al.      |                        |          |                            |
|  | 4,168,338       | 09/18/1979                      | Kato et al.      |                        |          |                            |
|  | 4,266,016       | 05/05/1981                      | Date et al.      |                        |          |                            |
|  | 4,330,605       | 05/18/1982                      | Boston           |                        |          |                            |
|  | 4,371,582       | 02/01/1983                      | Sugiyama et al.  |                        |          |                            |
|  | 4,425,405       | 01/10/1984                      | Murakami et al.  |                        |          |                            |
|  | 4,440,827       | 004/03/1984                     | Miyamoto et al.  |                        |          |                            |
|  | 4,446,174       | 05/01/1984                      | Maekawa et al.   |                        |          |                            |
|  | 4,460,637       | 07/17/1984                      | Miyamoto et al.  |                        |          |                            |
|  | 4,474,847       | 10/02/1984                      | Schröder et al.  |                        |          |                            |
|  | 4,474,850       | 10/02/1984                      | Burwasser        |                        |          |                            |
|  | 4,474,859       | 10/02/1984                      | Oshima et al.    |                        |          |                            |
|  | 4,478,910       | 10/23/1984                      | Oshima et al.    |                        |          |                            |
|  | 4,490,434       | 12/25/1984                      | Oshima et al.    |                        |          |                            |
|  | 4,542,059       | 09/17/1985                      | Toganoh et al.   |                        |          |                            |
|  | 4,554,181       | 11/19/1985                      | Cousin et al.    |                        |          |                            |
|  | 4,564,560       | 01/14/1986                      | Tani et al.      |                        |          |                            |
|  | 4,576,867       | 03/18/1986                      | Miyamoto         |                        |          |                            |
|  | 4,620,197       | 10/28/1986                      | Miyamoto et al.  |                        |          |                            |
|  | 4,636,409       | 01/13/1987                      | Arai et al.      |                        |          |                            |
|  | 4,642,654       | 02/10/1987                      | Toganoh et al.   |                        |          |                            |
|  | 4,732,786       | 03/22/1989                      | Patterson et al. |                        |          |                            |
|  | 4,743,507       | 05/10/1988                      | Frances et al.   |                        |          |                            |
|  | 4,758,461       | 07/19/1988                      | Akiya et al.     |                        |          |                            |
|  | 4,780,356       | 10/25/1988                      | Otouma et al.    |                        |          |                            |
|  | 4,792,487       | 12/20/1988                      | Schubring et al. |                        |          |                            |
| V  | 4,877,678       | 10/31/1989                      | Hasegawa et al.  |                        |          |                            |
|  | 4,877,686       | 10/31/1989                      | Riou et al.      |                        |          |                            |

|  |           |            |                    |  |  |  |
|--|-----------|------------|--------------------|--|--|--|
|  | 4,879,166 | 11/7/1989  | Misuda et al.      |  |  |  |
|  | 4,892,787 | 01/09/1990 | Kruse et al.       |  |  |  |
|  | 4,900,620 | 02/13/1990 | Tokita et al.      |  |  |  |
|  | 4,902,568 | 02/20/1990 | Morohoshi          |  |  |  |
|  | 4,915,923 | 04/10/1990 | Ogawa et al.       |  |  |  |
|  | 4,931,810 | 06/05/1990 | Iwata et al.       |  |  |  |
|  | 5,013,603 | 05/07/1991 | Ogawa et al.       |  |  |  |
|  | 5,041,328 | 08/20/1991 | Akiya et al.       |  |  |  |
|  | 5,057,570 | 10/15/1991 | Miller et al.      |  |  |  |
|  | 5,081,470 | 10/15/1991 | Kurabayashi et al. |  |  |  |
|  | 5,124,201 | 06/23/1992 | Kurabayashi et al. |  |  |  |
|  | 5,180,624 | 01/19/1993 | Kojima et al.      |  |  |  |
|  | 5,213,873 | 05/25/1993 | Yasuda et al.      |  |  |  |
|  | 5,266,397 | 11/30/1993 | Ogawa et al.       |  |  |  |
|  | 5,270,103 | 12/14/1993 | Oliver et al.      |  |  |  |
|  | 5,279,885 | 01/18/1994 | Ohmori et al.      |  |  |  |
|  | 5,302,437 | 04/12/1994 | Idei et al.        |  |  |  |
|  | 5,314,747 | 05/24/1994 | Malhotra et al.    |  |  |  |
|  | 5,320,897 | 06/14/1994 | Kondo et al.       |  |  |  |
|  | 5,397,619 | 03/14/1995 | Kuroyama et al.    |  |  |  |
|  | 5,437,925 | 08/01/1995 | Macaulay et al.    |  |  |  |
|  | 5,459,502 | 10/17/1995 | Sakaki et al.      |  |  |  |
|  | 5,463,178 | 10/31/1995 | Suzuki et al.      |  |  |  |
|  | 5,472,757 | 12/05/1995 | Ogawa et al.       |  |  |  |
|  | 5,478,631 | 12/26/1995 | Kawano et al.      |  |  |  |
|  | 5,605,750 | 02/25/1997 | Romano et al.      |  |  |  |
|  | 5,660,622 | 08/26/1997 | Nikoloff           |  |  |  |
|  | 5,660,928 | 08/26/1997 | Stokes et al.      |  |  |  |
|  | 5,700,582 | 12/23/97   | Sargeant et al.    |  |  |  |
|  | 5,702,804 | 12/30/1997 | Malhotra           |  |  |  |
|  | 5,709,976 | 01/20/1998 | Malhotra           |  |  |  |
|  | 5,725,946 | 03/10/1998 | Fukushima et al.   |  |  |  |
|  | 5,747,146 | 05/5/1998  | Kashiwazaki et al. |  |  |  |
|  | 5,755,929 | 5/26/1998  | Kuroyama et al.    |  |  |  |
|  | 5,798,173 | 08/25/1998 | Momma et al.       |  |  |  |
|  | 5,846,647 | 12/08/1998 | Yoshino et al.     |  |  |  |
|  | 5,851,654 | 12/22/1998 | Yoshino et al.     |  |  |  |
|  | 5,856,001 | 01/05/1999 | Okumura et al.     |  |  |  |
|  | 5,856,023 | 01/05/1999 | Chen et al.        |  |  |  |
|  | 5,863,648 | 01/26/1999 | Ohmura et al.      |  |  |  |
|  | 5,866,268 | 02/02/1999 | Sargeant et al.    |  |  |  |
|  | 5,869,177 | 02/09/1999 | Yoshino et al.     |  |  |  |
|  | 5,882,388 | 03/16/1999 | Adair et al.       |  |  |  |
|  | 5,882,396 | 03/16/1999 | Hiorns             |  |  |  |
|  | 5,882,754 | 03/16/1999 | Kuroyama et al.    |  |  |  |
|  | 5,882,755 | 03/16/1999 | Igarashi et al.    |  |  |  |
|  | 5,888,635 | 03/30/1999 | Yang et al.        |  |  |  |
|  | 5,897,961 | 04/27/1999 | Malhotra et al.    |  |  |  |
|  | 5,916,673 | 06/29/1999 | Fryberg et al.     |  |  |  |
|  | 5,928,765 | 07/27/1999 | Malhotra           |  |  |  |
|  | 5,928,787 | 07/27/1999 | Owatarai et al.    |  |  |  |
|  | 5,928,988 | 07/27/1999 | Yamane et al.      |  |  |  |
|  | 5,942,335 | 08/24/1999 | Chen et al.        |  |  |  |
|  | 5,962,128 | 10/05/1999 | Kuroyama           |  |  |  |



OCT 16 2001

|    |           |            |                 |  |  |  |
|----|-----------|------------|-----------------|--|--|--|
| CD | 5,965,244 | 09/12/1999 | Tang et al.     |  |  |  |
|    | 5,985,424 | 10/16/1999 | DeMatte et al.  |  |  |  |
|    | 6,010,790 | 01/04/2000 | Chen et al.     |  |  |  |
|    | 6,028,028 | 02/22/2000 | Nitta           |  |  |  |
|    | 6,037,050 | 03/14/2000 | Saito et al.    |  |  |  |
|    | 6,074,793 | 06/13/2000 | Camp et al.     |  |  |  |
| ↓  | 6,165,606 | 12/26/2000 | Kasahara et al. |  |  |  |

## FOREIGN PATENT DOCUMENTS

|    | Document Number             | Date       | Country | Class | Subclass | Translation |
|----|-----------------------------|------------|---------|-------|----------|-------------|
| CD | 51-47340                    | 12/14/1976 | Japan   |       |          |             |
|    | 52-74340                    | 03/15/1977 | Japan   |       |          |             |
|    | 55-051583                   | 04/15/1980 | Japan   |       |          |             |
|    | 56-148,583                  | 11/18/1981 | Japan   |       |          |             |
|    | 56-148,586                  | 11/18/1981 | Japan   |       |          |             |
|    | 56-082,085                  | 05/22/1982 | Japan   |       |          |             |
|    | 57-107878                   | 07/05/1982 | Japan   |       |          |             |
|    | 57-107,879                  | 07/05/1982 | Japan   |       |          |             |
|    | 3,151,471                   | 08/12/1982 | Germany |       |          |             |
|    | 57-157,786                  | 09/29/1982 | Japan   |       |          |             |
|    | 58-094,491                  | 06/04/1983 | Japan   |       |          |             |
|    | 2,129,333 B                 | 11/19/1986 | GB      |       |          |             |
|    | JP 1160674 (Abstract only)  | 06/23/1989 | Japan   |       |          |             |
|    | 439,153 A                   | 07/31/1991 | EPO     |       |          |             |
|    | 493,100 A1                  | 07/01/1992 | EPO     |       |          |             |
|    | ; WO 95/00340               | 01/05/1995 | PCT     |       |          |             |
|    | JP 8072387 (Abstract only)  | 03/19/1996 | Japan   |       |          |             |
|    | 00730976/EP                 | 09/11/1996 | EPO     |       |          |             |
|    | 81 Exemplary Claims         |            |         |       |          |             |
|    | 743,193 A1                  | 11/20/1996 | EPO     |       |          |             |
|    | JP 09272257 (Abstract only) | 10/21/1997 | Japan   |       |          |             |
|    | 803,374 A2                  | 10/29/1997 | EPO     |       |          |             |
|    | 2,334,684 A                 | 09/01/1999 | GB      |       |          |             |
|    | 968,836 A2                  | 01/05/2000 | EPO     |       |          |             |
|    | 1,002,657 A1                | 05/24/2000 | EPO     |       |          |             |
| ↓  | 888,904 B1                  | 03/21/2001 | EPO     |       |          |             |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

|    |   |
|----|---|
| CD | Ralph K. Iler. <i>Silica Gels and Powders</i> . "The Chemistry of Silica Solubility, Polymerization, Colloid and Surface Properties, and Biochemistry." Ed. John Wiley & Sons; 5 (462-621) 1979.          |
|    | Technical Bulletin No. 105. "Stickies and Pitch Pacification White Paper Grades; Kenite®; Celite®; Harborlite®." Ed. World Minerals Inc.; 1980.   |
|    | Hercules. "Hercon 70, 72, 75, and 78 Cationic Emulsions, The Next Generation of Alkaline Sizing Agents." Ed. Hercules, Inc; December 1989.  |
|    | Masao Takahashi, Teiji Sato and Masahide Ogawa; Research and Development Division "Development of Amorphous Silica for Ink Jet Recording Paper." Ed. Mizusawa Industrial Chemicals, Ltd.; April 23, 1990. |
|    | Paper Chemicals Products & Services. "Lectrapel Anti-Static Agent." Ed. Calgon Corporation, Water Management Division; December 1992.   |
|    | "Basoplast® 335 D"; BASF Corporation; June 1994.  |
|    | Hercules. "Chromaser™ 600 Surface Sizing Treatment." Ed. Hercules, Inc.; November 1994  |
| ↓  | Air Products and Chemicals. "Airvol® Polyvinyl Alcohol Typical Properties." Ed. Air Products and Chemicals, Inc. 1995.  |



|     |  |
|-----|--|
| (2) | Martin OL/107; May 1995.   |
|     | "Polyox® Water-Soluble Resins" (1995)  |
|     | Micahel C. Wilthiam. "Silica Pigments for Ink-Jet Printability; Presented at the 1996 TAPPI Coating Conference, Nashville, TN, May 21, 1996. |
|     | "Kirk-Othmer Encyclopedia of Chemical Technology." Recycling, Oil to Silicon. Ed. John Wiley & Sons; Fourth Edition; Volume 21. (9/1992)     |
|     | CIBA-GEIGY Technical Bulletin. "Fluorescent Whitening Agents for Paper." (1995)  |
|     | CIBA-GEIGY Technical Bulletin. "Tinopal HST Liquid." (1995)  |
|     | CIBA-GEIGY Technical Bulletin. "Tinopal SCP Liquid." (1995)  |
|     | Paper Chemicals. MSA-150 Surface Size. Ed. Morton® Water Based Polymers. (1995)  |
|     | Davison Silica Gels. "Typical Chemical and Physical Properties of Silica Gel." (1995)  |
|     | "UniQ-Print® 8000 Unique Printability Enhancer" Sequa Chemicals, Inc. Ed. Sequa Chemicals, Inc. (1995)                                       |
|     | D.M. Chapman, Ph.D. "Silica-Gel Coatings for Ink-Jet Media." Ed. Grace Davison. (1995)   |
|     | "The Davison Family of Sylloid® Silicas." Ed. Grace Davison Chemical. (1995)   |
|     | "Introduction to Silica Gel." (1995) ✓   |
| ✓   | "Acronal® PR 8689 X". Ed. BASF Corporation. August 1995. (1995)  |

Examiner

Colleen Shuster

Date Considered

3/28/03